

**REMARKS**

Claims 14, 15, 20, 21, 24-26 and 29 are pending. By this Amendment, claims 14, 15, 21 and 26 are amended and claims 22, 23, 27 and 28 are canceled.

Applicants thank Examiner Kallis for the courtesies extended during the January 21, 2004, personal interview. Applicants' separate record of the interview is incorporated into the following remarks.

Entry of the amendments is proper under 37 C.F.R. §1.116 since the amendments:

(a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution; (c) satisfy a requirement of form asserted in the previous Office Action; (d) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (e) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection and suggestions discussed during the January 21, 2004 personal interview. Entry of the amendments is thus respectfully requested.

Claims 21-24 and 26-29 are rejected under 35 U.S.C. §112, first paragraph, for allegedly containing new matter. Applicants respectfully traverse the rejection.

Claims 21 and 26 have been amended to recite at least 93% homology with the coding region. The specification clearly supports sequences having at least 70% homology with SEQ ID NO: 1. A sequence having at least 93% homology with the coding region of SEQ ID NO: 1 would have at least 70% homology with SEQ ID NO: 1. In addition, the specification clearly describes the importance of the coding region of SEQ ID NO: 1. Thus, the teaching of at least 70% homology with SEQ ID NO: 1 clearly supports the recitation of at least 93% homology with the coding region of SEQ ID NO: 1.

Claims 21 and 26 are clearly supported by the present application. Therefore, the new matter rejection of these claims should be reconsidered and withdrawn.

Claims 14, 15, 21-24 and 26-29 are rejected under 35 U.S.C. §112, first paragraph, for allegedly lacking written description and enablement. Applicants respectfully traverse the rejections.

Claims 14 and 15 have been amended to recite that the vector comprises "a nucleotide sequence encoding (1) an enzyme involved in carotenoid synthesis, represented by SEQ ID NO: 2 or (2) a protein having equivalent enzymatic activity to the enzyme represented by SEQ ID NO: 2. The expression "equivalent enzymatic activity" is defined in the present specification at page 3, lines 5-16. In particular, the expression is indicated to mean that:

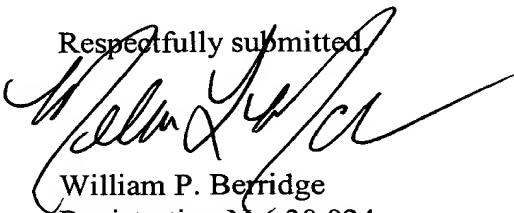
although some of the portions of the enzyme may be structurally modified, it is nevertheless capable of modifying its substrate. Its activity is substantially the same as that of the native enzyme. It will be understood that this enzyme cannot be modified at its active site. Consequently, any modification made to the native sequence, by addition, deletion or substitution of one or more amino acids, is understood as giving rise to an equivalent enzymatic activity insofar as the activity of the native protein is not affected by these modifications.

It is respectfully submitted that the specification clearly provides written description and enables the subject matter of amended claims 14 and 15. In particular, the specification clearly describes a vector encoding the enzyme of SEQ ID NO: 2, as well as a vector encoding enzymes having equivalent enzymatic activity to the enzyme represented by SEQ ID NO: 2. In addition, one of ordinary skill in the art would have been able to make and use such a vector without undue experimentation. Therefore, the rejections under 35 U.S.C. §112, first paragraph, should be reconsidered and withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 14, 15, 20, 21, 24-26 and 29 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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